

# Dividing Mixed Numbers

R 5-7

You can follow these steps to find  $5\frac{1}{3} \div 1\frac{1}{3}$  and  $21 \div 2\frac{1}{3}$ .

Step 1	Step 2	Step 3
<p>First estimate. Then write each number as an improper fraction.</p> <p>Find <math>5\frac{1}{3} \div 1\frac{1}{3}</math>. Estimate <math>5 \div 1 = 5</math>.</p> $5\frac{1}{3} \div 1\frac{1}{3} =$ $\begin{array}{r} \downarrow \quad \downarrow \\ \frac{16}{3} \div \frac{4}{3} \end{array}$	<p>Find the reciprocal of the divisor. Rewrite as a multiplication problem.</p> $\frac{16}{3} \div \frac{4}{3} =$ $\frac{16}{3} \times \frac{3}{4}$	<p>Look for common factors. Simplify, then multiply.</p> $\frac{16}{3} \times \frac{3}{4} =$ $\begin{array}{r} 4 \quad 1 \\ \cancel{16} \times \cancel{3} = \frac{4}{1} = 4 \\ 1 \quad 1 \end{array}$ <p>4 is close to 5, so the answer is reasonable.</p>
<p>Find <math>21 \div 2\frac{1}{3}</math>. Estimate <math>21 \div 2 = 10\frac{1}{2}</math>.</p> $21 \div 2\frac{1}{3}$ $\begin{array}{r} \downarrow \quad \downarrow \\ \frac{21}{1} \div \frac{7}{3} \end{array}$	<p>Find the reciprocal of the divisor. Rewrite as a multiplication problem.</p> $\frac{21}{1} \div \frac{7}{3} =$ $\frac{21}{1} \times \frac{3}{7}$	<p>Look for common factors. Simplify, then multiply.</p> $\frac{21}{1} \times \frac{3}{7} =$ $\begin{array}{r} 3 \\ \cancel{21} \times \frac{3}{\cancel{7}} = \frac{9}{1} = 9 \\ 1 \quad 1 \end{array}$ <p>9 is close to <math>10\frac{1}{2}</math>, so the answer is reasonable.</p>

Find each quotient. Simplify if possible.

1.  $2\frac{2}{3} \div 3\frac{1}{4} =$  \_\_\_\_\_

2.  $1\frac{3}{4} \div 4\frac{1}{8} =$  \_\_\_\_\_

3.  $2\frac{1}{5} \div 2\frac{1}{3} =$  \_\_\_\_\_

4.  $5\frac{1}{4} \div 3 =$  \_\_\_\_\_

5.  $10 \div 3\frac{1}{4} =$  \_\_\_\_\_

6.  $7\frac{1}{4} \div 2\frac{1}{8} =$  \_\_\_\_\_

7. **Writing in Math** Paper needs to be cut for voting ballots. Each piece of paper is  $10\frac{1}{2}$  in. long. Each ballot should be  $1\frac{3}{4}$  in. long. How many ballots can be cut from one piece of paper?
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